

## Technical Data Sheet

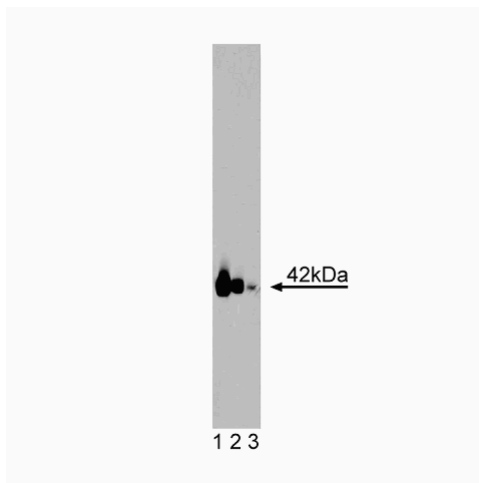
## Purified Mouse Anti-Gαq

## Product Information

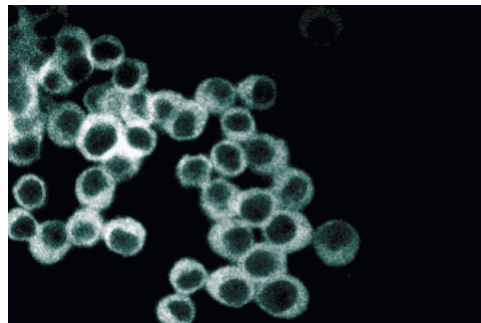
<b>Material Number:</b>	612705
<b>Size:</b>	150 µg
<b>Concentration:</b>	250 µg/ml
<b>Clone:</b>	10/GAQ
<b>Immunogen:</b>	Human Gαq aa. 22-31
<b>Isotype:</b>	Mouse IgG1
<b>Reactivity:</b>	QC Testing: Human Tested in Development: Mouse, Rat, Chicken, Dog
<b>Target MW:</b>	42 kDa
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

## Description

The GTP binding regulatory proteins (G proteins) consist of three subunits:  $\alpha$ ,  $\beta$ , and  $\gamma$ . These heterotrimeric proteins function at membranes to relay signals from cell surface receptors to intracellular effectors. The  $\alpha$  subunit is unique for each G protein and contains the site of GTP binding and hydrolysis, as well sites for receptor and effector interactions. The  $\beta\gamma$  subunit complex interacts directly with receptors and the  $\alpha$  subunit. The G $\alpha$  family includes four families: the G $\alpha$ s family including G $\alpha$ s, G $\alpha$ 1f, and G $\alpha$ t, the G $\alpha$ i family including G $\alpha$ i, G $\alpha$ o, and G $\alpha$ z, the G $\alpha$ q/G $\alpha$ 11 family and the G $\alpha$ 12/13 family. The G $\alpha$ q protein is 88% homologous with G $\alpha$ 11 and both are widely expressed. These G proteins activate phospholipase C proteins, which induce calcium signaling events. G protein coupled receptors (GPCRs) involved in regulating Wnt signaling activate G $\alpha$ q, phospholipase C $\beta$ , and induce calcium-dependent activation of calpain. These events promote  $\beta$ -catenin nuclear export and proteolysis. G $\alpha$ q has also been implicated in metabotropic glutamate receptor signaling. Thus, G $\alpha$ q isoforms activate phospholipase C proteins in various G-protein coupled receptor pathways.



**Western blot analysis of Gαq on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152).** Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti-Gαq antibody.



**Immunofluorescence staining of PC12 cells (Rat neuroblastoma; ATCC CRL-1721) treated with NGF.** PC12 cells were serum starved for 1 hour and then stimulated with 100 ng/mL NGF for 10 minutes at 37°C.

## Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20°C.

## BD Biosciences

bdbiosciences.com  
 United States 877.232.8995    Canada 888.259.0187    Europe 32.53.720.550    Japan 0120.8555.90    Asia Pacific 65.6861.0633    Latin America/Caribbean 55.11.5185.9995

For country-specific contact information, visit [bdbiosciences.com/how\\_to\\_order/](http://bdbiosciences.com/how_to_order/)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2008 BD



## Application Notes

### Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

### Recommended Assay Procedure:

**Western blot:** Please refer to [http://www.bdbiosciences.com/pharmingen/protocols/Western\\_Blotting.shtml](http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml)

### Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

### References

Dutt P, Kjoller L, Giel M, Hall A, Toksoz D. Activated Galphaq family members induce Rho GTPase activation and Rho-dependent actin filament assembly. *FEBS Lett.* 2002; 531(3):565-569.(Biology)  
Li G, Iyengar R. Calpain as an effector of the Gq signaling pathway for inhibition of Wnt/beta -catenin-regulated cell proliferation. *Proc Natl Acad Sci U S A.* 2002; 99(20):13254-13259.(Biology)  
Strathmann M, Simon MI. G protein diversity: a distinct class of alpha subunits is present in vertebrates and invertebrates. *Proc Natl Acad Sci U S A.* 1990; 87(23):9113-9117.(Biology)